Combat Crew

strategic air command

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Combat Crew

Magazine of the Strategic Air Command - 27th Year of Publication

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ON OUR COVER

General Russell E. Dougherty discusses B-1 mission details with Rockwell International Chief Test Pilot Charlie Bock (left) and SAC Test Pilot Major George Larson. For more on the B-1 and other weapon systems read the General's article on the following pages.

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COMBAT CREW is an internal publication of the Strageic Air Command with the sole purpose of promoting safety. The contents of this magazine are informative and not to be considered as directive in nature. Facts, testimony and conclusions of all accidents printed herein may not be construed as incrimination under Article 31 of the Uniform Code of Military Justice. All names, dates and places used in conjunction with accident stories are fictitous. Written permission must be obtained from Headquarters, Strategic Air Command, before any material may be reprinted by other than U.S. Air Force organizations. Use of funds for printing this publication has been approved by Hq. USAF. Contributions are encouraged, as well as comments and criticisms. Direct correspondence with the Editor is authorized. Address correspondence to Editor, COMBAT CREW, Hq. SAC (DOSE), Offutt AFB, Ne. 68113.

FLARE

DETERRENCE IS EVERYBODY'S BUSINESS

Gen. Russell E. Dougherty
Commander in Chief, SAC

We live in a very real and sometimes frightening world

— A world which, in the final analysis, has not yet found a suitable substitute for power.

— A world in which our most formidable opponent has an inimical ideology, dedicated to the overthrow and replacement of our form of democracy.

— A world in which this powerful and well-armed ideological opponent speaks with apparent sincerity of peace on earth but continues to arm, to modernize, and to enlarge his offensive and defensive forces — forcing us either to do likewise, or to throw ourselves on his mercy and to accept the munificence of a communist dominated world.

Ours is a world where America — **which is at peace because it is strong — is thought by some to no longer need to be strong because it is at peace!**

We are seriously in need today — and will be tomorrow — of an interested and informed group of citizen and military observers, outside the defense community as well as inside it, who study and understand defense issues — and have the ability, willingness, and credibility to explain the facts of inimical threats and the need for relevant defenses to the American people:

— To explain the essential difference between the fundamental security policies of a nation and the potpourri of hopes, wishes, and subjective concepts and policies of a few articulate people.

— A group of strong and dedicated people who understand the need for

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consistency, the long lead times involved in developing modern, capable weapons systems — and in training and supporting the operational forces needed to employ these weapons. Cursory observers cannot develop such a long-haul defense policy — but, unfortunately, can contribute to the erosion, delay, or even cancellation of the most comprehensive and well-thought-out programs in this complex area of concept, technology, resource investment, and training. A cursory understanding is inadequate . . . a cursory misunderstanding is devastating.

Let me now turn to specifics of what many people loosely describe as the "military requirements of your Air Force." Before I do, however, I would like to offer the personal observation that your Air Force has no "requirements" of its own. The requirements expressed by the Air Force, supported by the Administration, and placed before Congress for approval and authorization are not the requirements of your Air Force as such. These requirements represent the best judgment of those responsible to you for taking measure of those forces opposing us now and the best estimates of those that will oppose us in the future — and for trying to build, in advance of the need, the kind of defense forces we will need to counter opposing forces.

Our requirements reflect no aggressive intent — no weapons for conquest and military hegemony — ours is a defensive posture. Our requirements reflect the forces needed to counter aggression, to preclude coercion through balanced, capable and "in being" military forces. We shore up the will of our nation and its leaders as they stand up to efforts to intimidate us — to back us down. Ours is a deterrent mission, but our ability to deter is directly proportional to the will of our people to resist and the ability of our military forces to fight, if we must.

"Because of the selflessness and dedication of the American people, we have the best Air Force in the world."

There is a modern paradox with regard to the defense of our nation as we consider major nuclear confrontations; i.e., the reflected deterrent strength of our strategic nuclear offensive forces is, practically, our only defense against the strategic forces of the USSR.

We are, in effect, defending our nation by insuring that there is no decision on their part to use their nuclear weapons, by deterring such a decision. By and large, we cannot defend against those weapons once they have decided to use them.

Over the last few months, I have noted the current "buzz" phrase around Washington — which seems to be firmly ensconced in the verbal shorthand of our nation's capital — is "the bottom line." I think that most of us are sufficiently knowledgeable and have such a well-developed,

". . . today's full active complement of B-52s is less than half of the original B-52 production of 750."

common frame of reference that we can use the "bottom line" technique. So, I will discuss succinctly some of the key requirements that we in the Air Force see as imperative for our Congress to authorize, support, and provide as it goes about the Congressional imperative to "provide for the common defense and the general welfare of the United States." This imperative is, unfortunately, too often treated by some as an **option** for our Congress rather than an **obligation** of that body.

First, in the area of strategic forces — in the area of my command responsibilities — and an area that serves as the "controlling rod" for conflict throughout the full spectrum of warfare, the "bottom line" is:

— To move from research and development into production of the B-1. Even if we do this at the rate we have now programmed, the B-1 will not become an operational weapon system in SAC until 1982 and the last of the requested number of 244 B-1s will not be in our inventory until 1986.

I am amazed by the heterogeneous grouping of people and organizations that have spoken out so vehemently against the B-1. A lack of serious, responsible thought often permeates their arguments. I have recently flown left seat in the B-1 for over nine hours; I am confident that this aircraft can do the job we have for it — and can be an aircraft we can support, maintain and use to exceptional advantage in our nation's strategic arsenal for decades.

Often I am asked: "General, what will the B-1 do that the B-52 can't do?" The comprehensive answer to that question would have required hours, even days, of detailed dialogue. The "bottom line" that I give my interrogators is: "Provide our nation with a capable, penetrating bomber that can fully exploit the technological developments of our nation and effectively apply weapons (or threaten to apply weapons) against enemy targets, anywhere, **in the year 2000** . . . and recover to be used again and again to do that job. Our nation is going to need that flexible, reusable capability in that time frame." We musn't be misled by assertions that the Air Force itself is saying "The B-52 will continue to be useful and needed, even when the B-1 starts coming in." These overly simplistic arguments forget the in-

"I am confident this aircraft can do the job we have for it . . ."

creases and changes in the job to be done . . . and they forget (or ignore) that today's full active complement of B-52s is less than half of the original B-52 production of 750. Half the B-52 fleet has **already** been attrited or declared obsolete.

— In the area of strategic missilery, SAC's most modern intercontinental ballistic missile is Minuteman III . . . an accurate, reliable missile capable of delivering three independently targetable nuclear warheads. We have 550 Minuteman III and 450 of the older single warhead Minuteman II. The President has asked Congress to buy more MINUTEMAN IIIs — to keep a production and technological base viable until we achieve a satisfactory Arms Limitation Agreement — (or get MX coming into our inventory). The MX is in the validation phase, with advanced development of some critical subsystems. This follow-on, modernized ICBM is being designated as the MX. Even with optimum development, there is no way that we foresee having the advanced, high-thrust, multiple warhead capable MX operational before the mid-1980's.

The MX has not yet reached the point where deployment is actively programmed; however, I am confident that the expanding nature of potentially inimical targets — and the changing character of those targets (dispersal, hardening, redundancy, etc.) — makes it imperative that the nation keep active and alive the conceptual development and subsystem technology to enable us rapidly to deploy into operational postures (missile silos or in mobile configuration) a fully modern missile with increased thrust and weight, better accuracy, and increased warhead capacity.

— SAC serves as the single manager for Air Force inflight refueling support for the increasing numbers of aircraft having the capability to extend their range, improve their payload, and enhance their tactics through air refueling.

Our nation and its allies depend heavily on the rapid mobility of our tactical and strategic forces; and nothing contributes more directly to this than our ability to air refuel our airlift, tactical and strategic forces. The Boeing KC-135 tanker (and we have about 600 of this model aircraft) has been a reliable and effective airplane; it is in demand constantly for mobility deployments, training, and tactical exploitation.

The C-5s of Military Airlift Command (MAC), the tactical unit

"The Boeing 747 . . . we would focus the capability of this widebodied aircraft to the requirement of our forces."

deployments of the Air Force fighter, and the supplemental capability of modern, wide-bodied, fan engine aircraft make feasible and highly desirable a relatively modest number of large capacity, tanker/cargo aircraft to augment our fleet of KC-135s. We have asked for an initial buy of 41 such aircraft; the Boeing 747, the Douglas DC-10 type aircraft — or a mix of both. We would focus the capability of these widebodied aircraft to the multiple refueling and to the supplemental cargo mode requirements of our airlift and tactical forces, with SAC managing the tanker utilization and Military Airlift Command controlling the cargo loads. Of course such aircraft would and could be used for strategic bomber refueling from time to time, but the planned and optimum utilization would be with tactical and airlift forces.

Though SAC is not now the principal user of other key weapons systems of priority interest to the Air Force, I am acutely aware of some of the key needs that have emerged and will expand in subsequent years and think I should provide my opinion, albeit not as direct as it would be from my colleagues now serving in other commands:

— The C-5 of Military Airlift Command is, of course, a national resource of the first order. Without indulging in the recriminations of how we got that way, the wing on the C-5 is too weak and the predicted useful life of this aircraft too short. The wing on that aircraft must be fixed. This will be expensive, but not nearly as expensive as it would be if we tried to duplicate the capability or expend the time and resources necessary to bring anything comparable to the C-5 into our operational inventory.

— Also, in MAC's area is the need for exploiting the already purchased and consequential capability of the C-141 by equipping those wonderful aircraft with a capability for inflight refueling, thus increasing their range, payload, and flexibility — and making it possible for them to sustain high intensity deployments without denuding a forward area of critical fuel during a time of emergency.

— In time, the work horse of tactical airlift — the various versions of the C-130 — will have to be replaced. The C-130 has become the

"Gooney Bird" of our times. As indestructible as it appears to be, however, time and technology will pass it by. The current, competitive developments of an advanced medium Short Takeoff and Landing (STOL) transport (two models by McDonnell-Douglas and Boeing Aircraft are now under evaluation) offer great advances in efficiency, capacity, and reliability. We must be aware of the potential need in the future and be perceptive to the STOL technology now being evaluated in this competition. In time this type of medium STOL transport will become imperative for our short range tactical airlift requirements.

— In the area of air defense, I think it will come as no surprise to the sophisticated audience that the United States is at or near an all-time low. We have been going on the premise that, since we cannot defend effectively against an ICBM or SLBM attack, why bother to defend against an intercontinental bomber attack! In my judgment this premise could leave us extremely vulnerable — even inviting the development of multiple, weapon-carrying manned bombers . . . they wouldn't even have to be penetrating bombers; they won't have to go low, fast and heavily equipped with ECM . . . just turn off their transponder!

". . . F-15 is proving to be everything we expected it to be — a magnificent air superiority fighter . . ."

Fortunately, there has been recognition of this fact and the necessity for the U.S. to be able to police its air space and to present a formidable, mobile defensive environment in the future. The combination of the AWACS and an advanced manned interceptor will enable the Aerospace Defense Command to provide an increasingly capable defense of our country from enemy bombers that would soon experience a "free ride" were we not to modernize and improve our capability.

— I have mentioned AWACS — the Airborne Warning and Control System — in connection with mobile defense capabilities of Aerospace Defense Command. The AWACS is also an equally pressing — even critical — requirement for use in

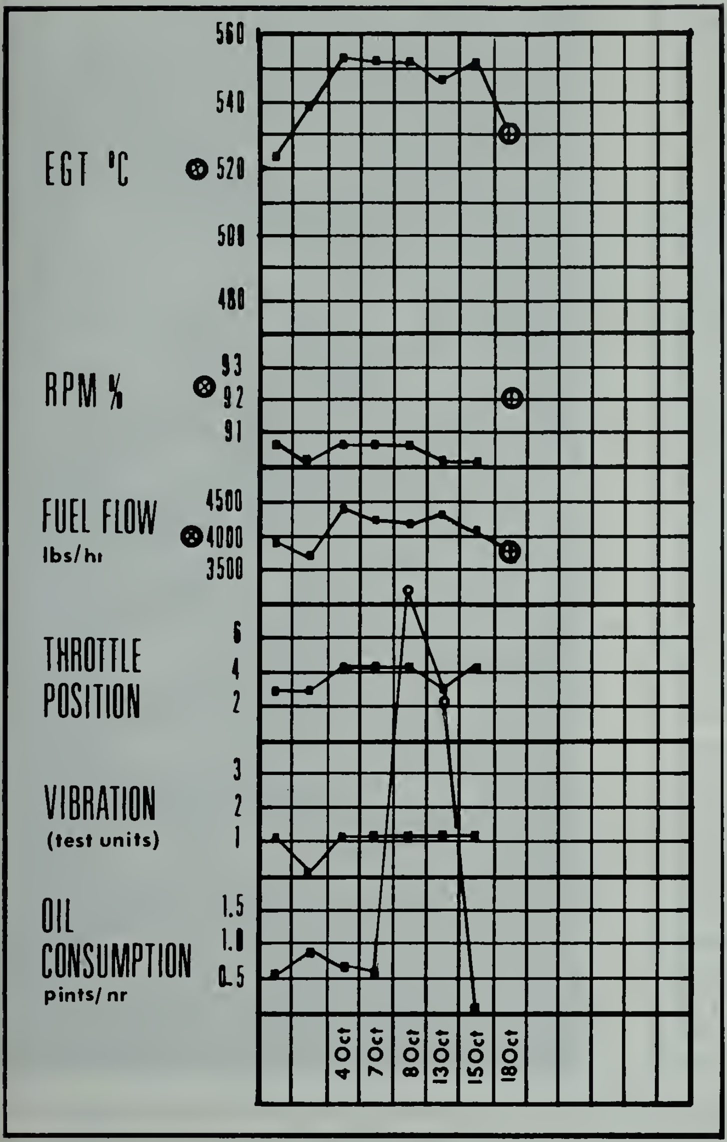
Continued on page 23

TSgt Nashwinter of the 509FMS explains to KC-135 crewmembers what was happening to one of their engines.

PROPULSION RELIABILITY IMPROVEMENT THROUGH INFLIGHT PERFORMANCE MONITORING

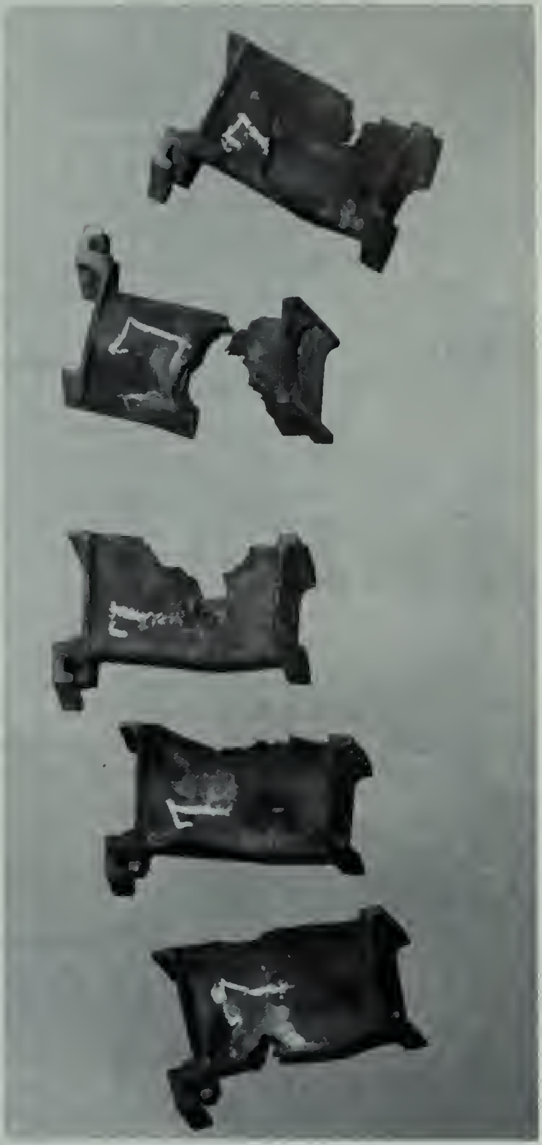
Lt Col James L. Pettigrew
CMSGT Robert M. McCord
Hq SAC/LGME
Offutt AFB

Editor's Note: In July 1976, we published an article on the results of an engineering test of Engine Condition Monitoring. At that time our ability to record and trend the inflight instrument indications had been proven but there were some unknown factors in the application of the program. A lot of progress has been made and this is a report on that progress.



⊗ **Indicates test cell data**

This engine (1500 hours since overhaul) was removed for oil consumption beyond tech data limits. The rise in EGT and subtle drop in RPM caused the evaluation team to look a little further. This action saved us $50,000.

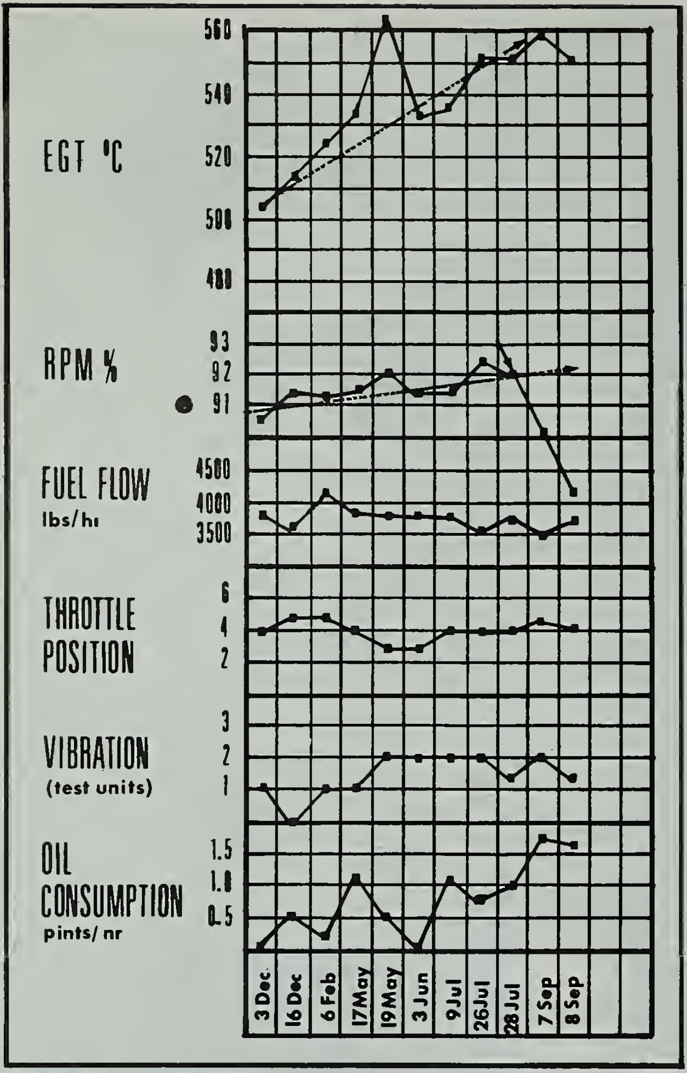


One that got away. Failure to respond to the engine trend indicator created this result. High EGT and decaying RPM were indications to the monitor to start troubleshooting.

All SAC KC-135 crews are now flying airplanes with more reliable and safer engines. Pretty strong statement, huh? It takes a lot of guts to make such a statement, but read on and see if you don't agree.

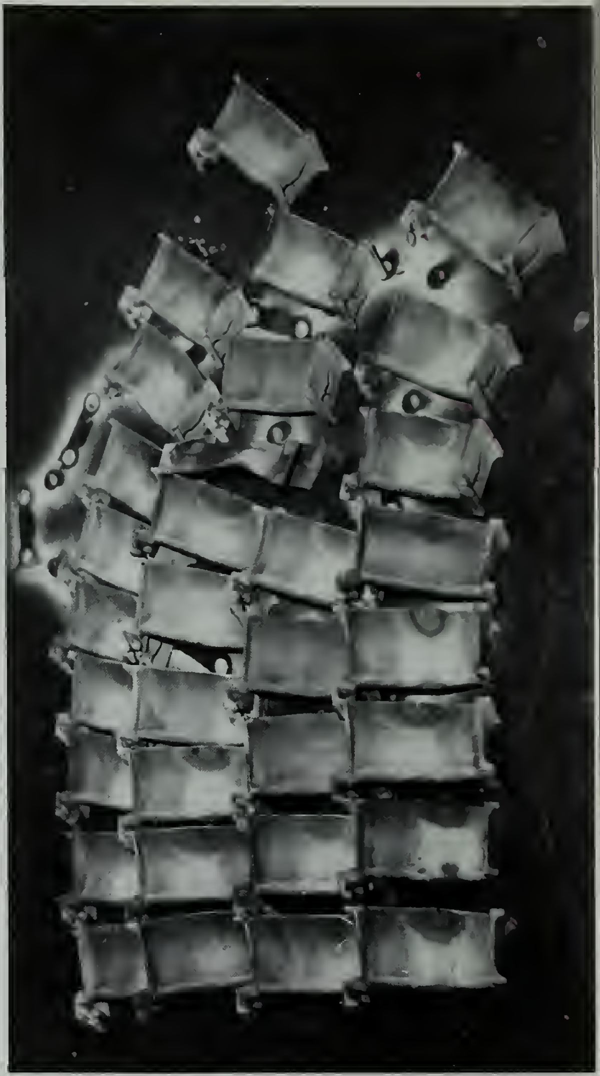
In October 1975, the SAC Aircraft Engineering Division initiated a test whereby the KC-135 flight crews at Beale, Offutt, McConnell and Barksdale recorded EPR, EGT, RPM and fuel flow readings once each flight under stable cruise conditions. The data was corrected to a selected flight atmospheric base and each instrument reading plotted on individual engine graphs. Each set of inflight data contained as much information on internal engine health as can be obtained from a ground trim run. Engine conditioning personnel analyzed the data plots for trends and limits. The result has been an observation of engine behavior patterns that we never knew existed before the test.

By October 1976, on 400 operational engines we had pulled 12 engines out of service because of high potential for catastrophic failure. We repaired 42 instrumentation problems, identified vibrating engines, numerous air leaks, and found



● Indicates test cell data

Engine trend plot showing definite EGT rise and sudden RPM drop. Had this engine (817 hrs since overhaul) been removed from service on 9 July, a $50,000 repair bill could have been avoided.



These are first-stage turbine nozzle vanes removed as a result of the engine trend indicating deterioration. Note the burning and bowing on the trailing edge, the first stage of failure.

adverse oil consumption trends — all without one pilot-reported discrepancy (instrument indications were not out of Dash One limits) in the 781A. Computing the potential secondary damage cost alone, we realized a cost avoidance in excess of $600,000.

A diagnostic guide for use by base level engine condition monitoring personnel was written by SAC/LGME to assist engine monitoring teams in recognizing trend patterns that require further investigation. The trend plots can reveal turbine damage, split compressor cases, unreliable EPR and EGT systems and oil service problems. Our diagnostic guide provides the wing engine evaluation team examples of trends and their meaning. The teams have a basis for decisions on pulling engines out of service that has not been available before. The trend plots are proving very creditable in that a problem existed each time the inflight data so indicated. The money we saved as the result of reduced secondary damage more than outweighed the expenditure of manpower required to collect, correct and trend the inflight instrument readings.

After reviewing the progress of the test in late September, the SAC/LGM directed that the program be used on all SAC KC-135s. In October, a revised test plan which included the diagnostic guide was published and distributed to all SAC aircraft wings.

As of this writing, the first month reports from the SAC-wide KC-135 monitor program are starting to come in and the results are most gratifying. An engine troop for 20 years, said "Now for the first time, our Propulsion Branch Chiefs know how their engines are behaving in flight. We can act to prevent further damage instead of reacting after failure when excessive damage has occurred." A summary of the first month's findings are shown on this page.

The engine monitoring program has yet to encounter a "miss," that is, a trend indication that requires man-hour expenditure to investigate and which subsequently reveals no defect. There is some reluctance on the part of field units to "believe" their plots and take action. Instructions for use of trend information require more than one data point to confirm a trend. This can prove costly as was the case for one of our engines. The EGT trend on this engine showed a consistent rise since the initial plot on 3 Dec 75; however, it remained below the 560° C NRT flight crew limit even though serious internal damage had occurred within the engine. The RPM drop seen in September showed that internal damage was occurring at rapid rates. Lack of inflight data for August flights caused the engine to be continued in service without repair action until 8 Sep 75. Action was being initiated by the engine monitoring team when it was learned that the engine was being removed from the wing for metal in the tailpipe on postflight. Repair action then required replacement of the complete engine hot section at a replacement parts cost of almost $56,000. Had data from each flight been available, action probably would have been taken, causing this figure to be much lower. As experiences such as these are documented, crews should see the creditability of the trend plot information and make every effort to provide maintenance with the inflight data.

An example of the engine conditioning program working as expected is shown in the accompanying photos. Fortunately, flight crews had provided the engine monitoring team with the data needed to direct additional repair on an engine that was off the wing for repair of an oil system seal (identified by trending oil consumption).

Engine performance data compiled from inflight readings of cockpit instruments and plotted on a SAC Form 1176 indicated that the engine was running with high EGT, high fuel flow and low RPM. These symptoms indicated low turbine efficiency. Because of this information, the Propulsion Branch chief decided to inspect the number one turbine nozzle vanes and combustion can area. Inspection revealed burnt and bowed number one turbine nozzle vanes and an inefficient spray pattern from fuel manifold nozzles. Repair of this engine, which had 1540 hours since complete overhaul, cost a total of $4,896: $3,160 for replacement parts and $1,736 for removal and replacement man-hours. The engine now is expected to perform for another 2500 flight hours because it passed the test cell with almost the same performance as after the previous overhaul. This timely repair avoided more than $51,000 of secondary damage to hot section parts that would have occurred at an increasingly rapid rate. From the damage apparent in the photos you can see that within a few more hours the engine would have come off the wing for hot section repairs had the monitoring program not been in existence to identify the existing condition. What are the odds that this engine's deterioration would have caused a serious inflight emergency?

Our interest is in developing and proving valid procedures which will increase operational effectiveness and reliability. Your support to date has resulted in approval of this system which will shortly be incorporated into a SAC regulation. The system works and it can increase flying safety and save us money, but only if our flight crews continue to provide timely and reliable data and maintenance personnel direct timely action on the observed indicators.

After reading the July '76 *Combat Crew* article, the Deputy Chief of Staff for Logistics at HQ USAF requested MAC and AFLC to review our program and see if it could be applied to their operation. The new Air National Guard KC-135 units have adopted engine monitoring as directed by the National Guard Bureau so the program is really spreading, The Navy is considering the SAC engine monitoring approach for the P3 Orion Aircraft and TAC is studying it for the F-111 program.

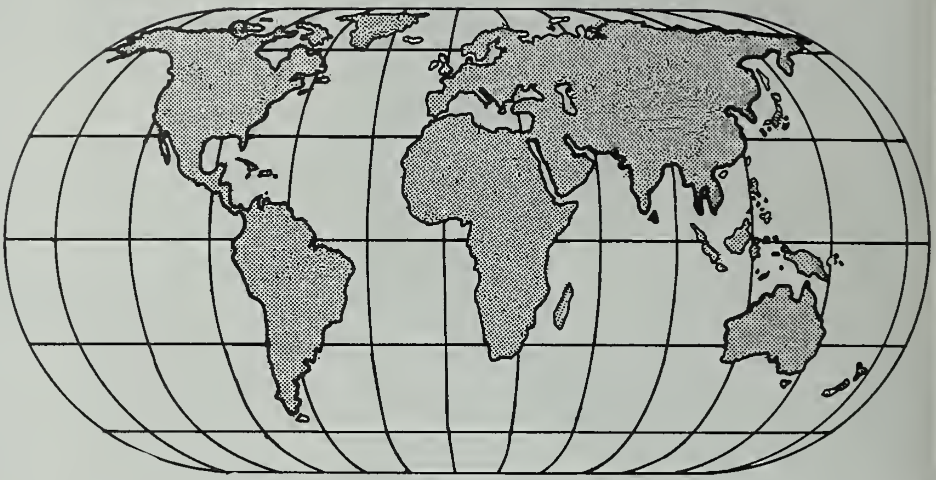
It is definitely paying handsome dividends and with your continued support in collecting the data, we stand firmly behind our first statement that the aircraft you fly are safer than they were before this program started.

The program will be expanded to all B-52 aircraft in early 1977. The success of this program illustrates what cooperation between operations and maintenance personnel can do with information that is fed back in real time and analyzed to provide the basis for the application of dynamic management techniques to operational weapons systems.

ENGINE MONITORING —
22 UNITS REPORTING
OCT 1976

Engines Repaired with Minimum Secondary Damage	**- 4**
Trend Observed — Fly to Failure	**- 3**
Watch Status — Trend Noted	**-17**
Bleed Valves — Running Open	**-18**
Bleed Air Leaks	**- 4**
Instruments (42 EPR) (35 EGT)	**-85**
Vibration	**- 5**
Static Oil Leaks	**-13**
Oil Consumption	**- 8**

Table 1. Field results from the first month of SAC-wide application of engine monitoring by all KC-135 flights.



sac's worldwide safety seminar

Captain David E. Pine
OTSL, Carswell AFB

The question was "Why?" Why do accidents and injuries continue to plague us in spite of our efforts to stop them. The answers and solutions to these problems were the objective of the SAC Safety Seminar 76 held recently at Carswell AFB.

Gathering to consider the timeless questions on safety were professional safety personnel from Air Force, SAC, and Air National Guard units, some traveling as far as 6800 miles (Kadena AB) to attend the conference.

Distinguished guests for opening day activities included Brig Gen Conlin, commander of the 19AD and Brig Gen Gross, commander of the 4AD. A total of 174 personnel participated in the seminar and for the sixth time in the past seven years the host organization was the Operations Training Support Laboratory (OTSL) at Carswell. This year a special cockpit distraction seminar was held in addition to the intensive schedule of seminars, lectures, presentations and crosstalk sessions.

(Above) Col Robert A. Owens, Deputy Director of Aerospace Safety, addresses members of Safety Seminar '76. (Left) Special guest lecturer, Mr. Justin Wilson, and Col Owens observe seminar proceedings. (Right) Col Jesse S. Hocker, SAC Director of Safety, makes opening remarks to seminar attendees.

Col Jesse S. Hocker, SAC Director of Safety, opened the first official session and set the pace for the conference with his remarks about the need for innovative ideas in dealing with the challenges in today's safety programs. He emphasized the fact that the Seminar 76 will employ new approaches in the seminar sessions. Problem solving through participation by unit safety personnel will be the key to success. In addition, significant seminar items which could be resolved within the seminar will be assigned an office of primary responsibility for followup to include periodic progress reports until the item is resolved.

Col Hocker also addressed the problem of the increasing off-duty accident rate and stressed that education is a vital tool that can be used in stemming the increase in this area. He also stressed the command concern over aircraft accidents with specific attention focused on breakdowns of crew discipline and coordination, failure to follow tech data, and cockpit distraction problems.

Following his opening remarks, Col Hocker introduced special guest lecturer, Mr. Justin Wilson, who is a noted safety consultant and Cajun humorist. With nearly 40 years of association with all areas of safety, he is president of his own firm which deals in safety consulting. Wilson, who resides on Pete's Highway, Denham Springs, La., has made numerous recordings which highlight Cajun humor — he also specializes in Cajun cooking. He often emphasizes truisms with the pointed expression, "I ga-ron-tee."

Wilson said his safety talks were something like making a sandwich, meat in the middle but also lots of dressing to help spice it up. His dressing consisted of some homespun tales which he delivered in his Louisiana French Cajun language. To give an example of Justin, one of his admirers commented to a friend: "Justin is the greatest embellisher I ever knew." Marvelled the friend, "You don't mean to tole me! I never t'ought he aver stole a nickel in his life."

The **meat** of his lecture touched on a variety ot safety areas which he

(Right) Informal discussions were also productive during Safety Seminar '76. (Lower right) Members of the Special Cockpit Distraction Seminar discuss ways of reducing cockpit workload during critical phases of flight.

summed up as his "three As of Safety." The As stand for Ambition, Ability, and Attitude. Wilson said a motivated person, trained to do a job right, will be an asset to the unit because of his positive attitude. The offshoot of a program accomplishing the three As will be to produce individuals who will be safety conscious, both on and off the job. Wilson emphasized another point by saying, "I don't know of a single job in the world where having an accident is part of the job. If it was, you couldn't get anyone to do it." He went on to say, however, that there are many jobs with a risk of having an accident. Preparing people to be aware of the hazards will help to prevent accidents.

In summarizing his philosophy, he compared safety programs to building a house. A safety program must have a strong foundation on which to build the three As; this is required to support an accident free environment. If the foundation is weak, the structure will fail — I ga-ron-tee.

The featured speaker, Col Robert A. Owens, Deputy Director of Aerospace Safety, Norton AFB, lead off the afternoon session on the first day. His presentation centered on past and present accident trends in both Air Force and SAC as well as predicting future trends in accidents. He reported that during the past six years, accidents have cost the Air Force over two billion dollars. He emphasized that these were direct costs only, with no estimate of additional losses such as legal costs and human suffering.

Looking back on the aircraft accident rate, it was noted that in 1945 we had 18 major accidents per day. This amounted to over 6000 major accidents during the year of 1945 and over 2000 fatalities. To top that, those figures were for the continental U.S. only. By comparison in 1975 there were 93 major accidents and 281 fatalities, which included 155 in the Saigon C-5 accident.

In comparison with 1945 figures, there has been real progress. On the other hand, the cost per accident has escalated at a tremendous rate. In 1953, the average aircraft accident cost us $200,000. In 1975, it was 2.8 million dollars per accident. And of course, this figure will grow in the coming years.

SAC has had four major aircraft accidents this year, three of which were caused by human factors. Some accidents involved a breakdown in aircrew professionalism. In one case, a pilot attempted to land in weather reported to be below minimums. In another, an accident occurred because the pilot descended below the assigned altitude. In another accident, the crew was so engrossed with a series of minor cockpit distractions that they lost sight of the primary responsibility — to fly the aircraft.

The human error aspect of mishaps are not restricted to a particular type of aircraft or a single command. It involves the selection, training, and use of all Air Force personnel. It means finding methods to positively influence basic attitudes and motivation. We have the overall systems, safety, standardization, inspection and command and control. What we have to do is generally refine and tighten up the existing system to make them function more effectively.

Another point made at the seminar was the fact that all four SAC accidents occurred during the approach or landing phase. The Critical

Eleven Minutes briefing (Combat Crew Magazine article date May 1976) proposed reducing the current task overloading during takeoff and landing. This is an excellent example of the type of ideas we need to pursue to minimize hazards which lead our people into accident situations. Ground proximity warning systems, broad based reviews of training, standardization and safety programs, plus new ideas, are examples of methods needed to insure a decrease in the factors which lead to our accidents in 1976.

In ground accident statistics, it was noted that SAC is making progress compared to 1975 in preventing on-duty injuries. Still the SAC on-duty injury rate has increased every year since 1971 and this year's rate is higher, except for the 1975 rate, than any previous year back to 1965.

Also projected was an increased trend in SAC off-duty military injuries. This rate has been increasing every year since 1969, and had the primary influence on the overall SAC military injury rate. One ray of sunshine was the decrease projected for the military fatality rate for SAC in 1976.

The civilian injury rates are up for both SAC and the Air Force. The long term trend has been up since 1969, however, in 1975 there was a significant jump. Analysis indicates a strong relationship between this increase and the passing of PL 93-416, relating to injury compensation for civilians. Particularly, the 45-day continuation of pay and doctor of choice. There is no way to tell how much the increase is attributable to the liberalized provisions of the law and how much is due to a real increase in civilian injuries during recent years. One fact is obvious. We must reduce the accidents that drive the rate up.

The Air Force motor vehicle accident rate has made good progress in 1976 after a particularly bad year in 1975. The private motor vehicle accident rate, after a very good start earlier this year, has unfortunately climbed steadily to where it is now higher than it was in 1974, negating

Continued on page 20

LIGHTNING STRIKES

At one of our bases a weather warning was issued by the duty forecaster. The warning was valid until 1800 and called for isolated thunderstorms within 10 MN of the base. At 1800, another weather warning was issued extending the valid time of the previous warning until 2200. The weather observer on duty took a special observation at 2056 PDT reported sky condition estimated 10,000 foot overcast, visibility seven miles, with thunderstorms and light rain showers. In the remarks, the observer reported that thunderstorms were northeast moving southwest, with lightning cloud to ground and cloud to cloud.

At approximately 2045, four avionics maintenance squadron (AMS) specialists departed their shop areas to perform routine aircraft maintenance activities. They arrived at the aircraft at approximately 2050 hours. Two of these specialists boarded the aircraft and completed some 780 equipment checks while the other two waited under the nose of the aircraft. Also present at the aircraft were two OMS personnel who had been dispatched to remove the wing access panels to allow maintenance to be performed on malfunctioning hydraulic pack. Both individuals were standing in close proximity to one another on a ground maintenance stand which was extended to place them approximately four to five feet off the ground and under the wing, between the inboard and outboard engine pods.

A light rain shower was in progress which increased in intensity to a heavy downpour. Within a few minutes. lightning either struck or struck in close proximity to the aircraft. Both OMS personnel received electrical shock from the lightning strike. One of them either fell or was knocked off the stand by the jolt and rendered unconscious. The other man remained conscious but suffered injury to his left arm. He jumped or was propelled from the stand and received minor abrasions on his left knee.

The two AMS personnel who had previously boarded the aircraft were also injured. One had exited the aircraft and was close to the crew entrance hatch when the lightning struck; the other man was exiting the aircraft and was in contact with the ground and the crew entrance hatch when the lightning struck. Both men were knocked or fell to the ground.

One of the other AMS specialists standing under the nose of the aircraft observed his injured co-workers and attracted the attention of the driver of a maintenance dispatch vehicle. With the assistance of the three individuals already aboard the vehicle, the four victims were assisted, in varying degrees, into the truck and an ambulance was requested through job control. The vehicle then proceeded to the bomber area control entry point to await the arrival of the ambulance. After approximately five minutes the vehicle departed toward the hospital. The ambulance intercepted them enroute. One man who was still unconscious was transferred to the ambulance and transported to the hospital. The three others suffered only temporary non-disabling injuries.

On the following day, the aircraft was inspected for damage. The only damage noted was the HF lightning arrestor was burned out.

The information in weather warnings can be used to identify threats to the safety of personnel and equipment. Supervisors as well as workers should be acutely aware of the dangers associated with any severe weather and take appropriate preventative measures to protect our resources.

BIG INSTRUMENT

EIGHT OF THOSE ELEVEN CRITICAL MINUTES — A NAVIGATOR'S POINT OF VIEW

MAJOR WALT LaGRONE
1st Combat Evaluation Group
Barksdale AFB

Why do airplanes fly into the ground? Chances are it is because you as a navigator and your crew as a whole were not prepared for the penetration and approach. Eight of those critical eleven minutes that you have heard about come just prior to landing. Anything the navigator can do to reduce the confusion in the cockpit and help the pilots during this time can make the difference between a safe, orderly approach, or disaster.

There are several things that you as a navigator can do to help the pilots. It begins mission planning day and continues through engine shut-down. The day of mission planning should include a review of all the bases of intended landing. Check all the obstructions near the base. If there are unusual terrain features in the area of the base or along the letdown route annotate them. Brief your crew on what can be expected. If you are going into a high density area, review the terminal area charts, the STAR, or possible alternate IAF's. The more preparation on the ground, the easier the flight.

The day of the flight, check the forecast wind direction at the base of intended landing and see if you will be able to use the penetration and approach that was planned. You say that you always do this? Chances are that if the base of intended landing is your home base, you really don't worry about it. However, just as it is good practice to check a strange field, you should also check your home base. Once again, any preparation that you do prior to takeoff decreases the confusion in the air.

After a long mission it finally comes time to start your penetration, and you are looking forward to that after-flight refreshment. Don't anticipate it too much! You are getting ready to enter eight of those eleven critical minutes you have been preparing for. Now more than ever you must be alert.

Many navigators have a tendency to put their DR kit away during penetration. Next they want to be sure that all the paperwork is complete prior to landing, so out comes the mission folder and all the associated mission paperwork. Although you may believe that you can monitor the radios and altitude while doing the mission paperwork, don't believe it. Now is when you must pay attention to everything transpiring in the cockpit.

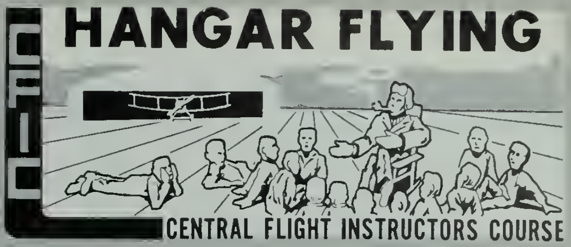
When the pilots review the approach to be flown, note the DH or MDA to be used. Be sure that they are correct for the approach to be flown. Be aware of all altitude restrictions that are appropriate for the penetration to be used. Anticipate a missed approach — know what your missed approach procedures will be and the intention of the pilot should a missed approach be executed.

As the descent is started listen to the radios. How many times have you thought that you heard center or approach clear the aircraft to one altitude and your pilot or copilot read back a different altitude. If you think the clearance was read back incorrectly, challenge the response. This time you may be wrong, but the next time you may be right. If you and your pilot did copy the correct clearance, check to insure that the aircraft will clear all terrain and obstacles between the aircraft position and the base. If you annotated the terrain during mission planning, it should only take a few seconds to cross-check it against the clearance you just received.

Prior to starting the descent, obtain the local altimeter setting and ensure that all altimeters are set not later than transition level. Make your appropriate altitude calls. Be sure that as the intermediate level off altitudes are approached you alert the pilot. If he descends through the level off altitude it is your fault as well as his. You must monitor the altitude of the aircraft at all times. If possible don't block out incoming radio calls, but don't let your pilot fly through the cleared altitude because someone was talking on the radios.

As the final approach is started be alert for changes in the clearance and altimeter setting. KC-135 Navs should, and FB-111 Navs will, look outside the cockpit for traffic in the local area. You will find that it is possible to monitor the altitude and position of the aircraft and still have time to scan for traffic. As you approach the DH or MDA, be prepared to notify the pilot 100 feet above and at the DH or MDA. It is appropriate to reiterate that if possible don't block incoming radio calls; however, don't let the aircraft fly into the ground because you don't want to block a radio call.

Flying an aircraft with more than one crew member becomes a team effort. As a crew member you have an obligation to yourself and your fellow crew members to do your best. Little things can become important. You as a crew member can make the difference. Be alert, know your terrain, know your clearance and stay alive.



Breakaway, Breakaway, Breakaway

There are several reasons when or why a breakaway is called but simply stated it is called, when in the opinion of a crewmember, a situation exists that necessitates an immediate separation between the tanker and receiver.

The word breakaway during an air refueling operation is cause for immediate concern and requires instant reaction from the receiver pilots, the tanker pilots and the boom operator. Each has a set of procedures to accomplish. If performed properly and in sequence the results should be as published. If performed improperly or out of sequence the results can be more devastating than the initial emergency. For example, if refueling a B-52 when a breakaway is called and the receiver pilot lowers the aircraft nose before reducing power and the tanker pilot starts to climb before receiving clearance from the boom operator, the tail of the B-52 could possibly strike the tanker. As previously stated a breakaway is called when, in the opinion of a crewmember, the necessity exists. This means that it is a judgment call. All crew members should be conditioned to react instantly when they hear the word breakaway, not wonder why it was called.

Judgment varies between individuals due to experience, training and numerous other factors. There have been incidents when a boom operator was criticized for calling a breakaway too early and on the next contact the boom ice shield was damaged. Was the first breakaway call too early? Granted, this is an isolated incident but one damaged ice shield because of criticism is too many and the command is experiencing an upward trend in air refueling incidents. Think about it.

Some crewmembers are of the opinion that calling a breakaway indicates a lack of skill and professionalism. This is the most unprofessional and unrealistic approach anyone can have. While in contact, the air refueling operation is primarily affected by three separate individuals, the boom operator, the tanker pilot and the receiver pilot. Since no one individual can control the action of the others, isolated cases do occur which necessitate emergency separation between the two aircraft.

All crewmembers involved in air refueling, especially the boom operators, should never let intimidation or criticism interfere with the initiation of a breakaway when in their opinion one is needed. Professional crewmembers should never let pride interfere with judgment or create complacency.

SAC'S WORLDWIDE SAFETY SEMINAR

Continued from page 15

Problem solving resulted from a free flow of ideas during seminar sessions.

the downward trend that started in 1975.

Explosive safety has improved with the total number of mishaps dropping. But the key cause factors of the incidents that do occur remain the same — personnel error.

Air launch missile mishaps have decreased from 13 last year to only three this year. Ground launch missile mishaps have also decreased over 1975. There has been a significant shift in the cause factor area. Last year almost 50 percent of mishaps were directly attributable to personnel error. This year, for the first time in four years, the percentage has dropped to less than 30 percent.

There were two missile related ground accidents which adversely affected the missile safety record. Both the Minuteman transporter-erector accident and a Titan personnel fatality involving freon show how even relatively routine tasks can have a high mishap potential. It was stressed that this potential will continue to remain high as Minuteman proceeds through upgrade and as Titan is modified and modernized. All missile safety managers must continue to monitor these programs not only for potential problems but also to find subtle deficiencies that have not yet surfaced in the form of a mishap. Titan II continues to be a standout program with a continued mishap free record.

Col Owens said, "We are beginning to stagnate in accident prevention. We have seen little, if any, significant improvement in overall accident rates in figures over the past few years. If we are to get out of this rut, we have got to come up with some new ideas, some innovative approaches, techniques, and concepts for accident prevention and safety management."

The Directorate of Aerospace Safety has started on some projects to help get us out of this rut. One of those is the Safety Action Team concept. Under this plan, a group of experts from appropriate safety disciplines is assembled. These disciplines include such skills as flight safety, analysis, life support, and systems safety. This group then reviews the weapon system and gives it an indepth safety inspection. The group, headed by a team chief, works with the system program office, the contractor, test agencies, and using and supporting commands to gain a detailed understanding of the weapon system. This includes the technology employed, the manufacturing techniques, the operational environment, and the management procedures for its development. The objective is to identify safety problems as early in the system development process as possible and to surface them to the management level that can eliminate the problem and prevent future accidents.

Another project initiated is the Lessons Learned Program. The objective here is to develop a corporate memory so that safety does not keep building the same deficiencies into weapon systems. Included under this concept is the automated computer program which helps trend incidents and category one MDR data. Using this system, we hope to identify impending accident sources and initiate corrective action to prevent other than react to a mishap.

It was pointed out at the seminar that safety education and training will be a key factor in safety's ability to do a better job with fewer people. In this regard, there is a two pronged effort to upgrade safety education programs. The first aspect is improving the overall effectiveness of Air Force safety people by enhancing the quality of initial and continuation education and training. The Chief of Safety course will be offered through AFIT during early spring. This will be an applied safety management course which directly addresses ways of handling the duties of a wing chief of safety.

The Flight Safety Officer course is being revised to be more application oriented and to be flexible enough to accommodate a variety of student backgrounds and interests. Much of this will be accomplished through optional small group seminars, videotape programs, and special study projects.

The 241XO safety course has been changed to accommodate basic airmen who will soon be entering into the safety field. This course will get them started, but it is going to be very important that their education and training continue during their initial duty assignment.

The second aspect of the safety education and training effort will be to insure that safety becomes an integral part of apprentice training. As an initial step, Air Force is sponsoring a study to develop a career field accident prediction model to identify the specific tasks that have a high accident potential or severity. These will then be subjected to a job hazard analysis to insure that technical training courses and instruction include safety training concurrent with task learning.

The Deputy Director of Aerospace Safety reported that education and training are critical to the safety program, but it will take even more than that to meet the safety challenges of tomorrow. He said we have to work smarter, not harder.

We no longer have the resources to work every possible avenue in reducing accidents. We must find the high payoff areas where we can make significant improvements. He emphasized that it is more important than ever to be selective about who is put in our safety jobs from base level on up. High quality people who can handle today's complex problems, people with initiative, a willingness to work, and an ability to develop new ideas are essential to a successful future.

Part of the first afternoon of the seminar was devoted to HQ SAC safety presentations. Generally, discussions included deficiencies and problem areas experienced during the past year, projected safety policy for 1977, and items of interest from the Worldwide Seminar for major command representatives conducted by AFISC earlier this year.

During the next three days of the seminar, the attendees participated in their representative seminar sessions which used the working group technique aimed at solving common safety problems and making recommendations to implement the solutions. Each seminar group concentrated on solving problems unique to each of the four safety disciplines: flying, ground, missile and nuclear. The following are highlights from the four major safety disciplines.

Flying Safety

Initial discussion in the area of flying safety centered on the safety aspects of the Accelerated Copilot Enrichment Program (ACE) and accident board composition. SAC and unit involvement in ACE accident prevention was also discussed. Capt Wilson of the 55SRW briefed an ACE accident.

Another topic of discussion was the recently produced sound/slide production, SAC Accident Brief. HQ SAC representatives solicited inputs from units on areas where subsequent presentations might be added and improved. Responsibility for Cat I and incident reports was discussed in addition to combining these reports when material is the only cause.

Seminar members discussed the possibility of including flying safety orientation, flying safety meetings and hangar flying sessions in the recurring aircrew ground training program.

In the area of aircraft accident/incident investigation and reporting, seminar members addressed the problems in investigation and reporting and how each area could be improved to increase aircraft accident prevention.

Another topic that was discussed was the unique programs implemented at the unit level that have promoted increased success of the safety program.

Flying safety seminar members identified nine major working group items and an action agency was assigned to each.

Ground/Industrial Safety

In a review of the 1976 SAC ground accident rates compared to 1975, SAC seminar members pointed out that the private motor vehicle accident rate has followed the predicted seasonal trend. This rate is presently above that of last year and analysis indicates motorcycle accidents have contributed significantly in this area. Similarly, military injuries have also followed seasonal trends and are above last year's rate.

In addition, sports accidents have been relatively high during the early part of this year. Civilian injuries are following the inflated trend established last year following the change of the compensation law.

Seminar members determined that accident reporting procedures require continued emphasis to maintain the desired quality. A review of the proposed new accident reporting reclassification which is based on total cost of property damage, injury or illness was made. The topic of AFOSH standards was also addressed. Although these standards cover many areas in the SAC industrial environment, units should maintain OSHA and ANSI standards to supplement the AFOSH standards.

During the course of the ground safety seminar sessions, 20 working group items were identified and assigned an action office for responsibility until the item is resolved.

Missile/Nuclear Safety

Working group members noted that standardized missile safety lesson plans are needed to reduce the administrative workload of the safety office and improve the unit missile safety training program. The Minuteman lesson plan is 95 percent complete and should be in the field in the near future. The SRAM/Quail and Titan II lesson plans will be accomplished as soon as possible.

A review of the Missile Safety program indicated that missile mishaps are occurring primarily in three areas — all in Minuteman. Missile guidance set connectors are being broken, failures of the environmental control system are overheating equipment racks, and battery charger failures are damaging batteries. Thus far in 1976 there have been three major missile accidents, 26 minor missile accidents, and three missile incidents.

Other major topics discussed were:

- Training of Safety Personnel. New ATC training programs will improve the safety training of safety personnel. A missile safety officer course is being developed by ATC, and the 3-level safety technician course at Lowry AFB has been revised. Weapon system familiarization courses are available for Minuteman and Titan II personnel. In addition, a local OJT program that concentrates on operations/maintenance concepts, organization and tasks can be used to provide weapons system training to safety personnel.

- Weapon System Safety Rules. In August 1974, DOD directed each service to restudy every operation involving nuclear weapons. These studies are almost complete and have resulted in several changes to SAC Weapon System Safety Rules. These changes include making them applicable throughout the "stockpile-to-target" sequence instead of only during peacetime.

- Certified Equipment. Equipment used with nuclear weapons requires certification in accordance with AFR 122-3. TO 11N-20-1001 provides a listing of the equipment that has been certified with applicable restrictions.

In addition to these topics, seminar members identified and assigned an office of primary responsibility to 20 items.

Special Cockpit Distraction Seminar

In addition to the regular seminar sessions at Carswell, Col Hocker convened a Special Cockpit Distraction Seminar. Membership in this seminar not only included safety personnel, it also included experts from AFISC, HQ SAC, NAF, CCTS and CFIC. The purpose was to make specific recommendations on solving the problem of cockpit distraction. After Maj Dockendorf briefed the "Critical Eleven Minutes" concept and presented background material, members used the brainstorming technique which resulted in a rapid, free-flow of ideas.

In addition, members brought a great many ideas and written suggestions from their units; they were discussed in detail. Both the quality and quantity of these ideas was outstanding and reflected innovative thinking. The result of this fast moving seminar was specific recommendations categorized into two areas: near term and long term. The seminar membership identified 11 near term and seven long term recommendations. Col Hocker pointed out that followup action was absolutely essential in order to effectively solve the problem of distraction in the cockpit.

After all the words were said and all the action items in, the seminar ended as a complete success. The SAC safety professional continues to be an active and vital force in the Air Force safety effort. SAC's program is run by people, for people, with the efforts of this year's seminar attendees dedicated to making the Air Force a safer and more enjoyable profession in which to serve.

DETERRENCE IS EVERYBODY'S BUSINESS

Continued from page 7

tactical employment, or forward area defensive deployment, by NATO and U.S. forces in Europe, and for tactical contingency deployments in Korea, or any other area of vital security interests to the U.S.

Some mistakenly think that the AWACS is just an airborne radar antenna. This is only the "tip of the iceberg" of AWACS technology. It has total theater battle management capability — it expands the commander's and the strategist's capability exponentially.

The dramatic advance made by American electronic technology in solving the problem of ground clutter for accurate radar presentation; the ability to assimilate and to present essential data in real-time; the ability to down-link a comprehensive battle situation; the ability of the backside of the AWACS antenna to identify and interpret multiple beacon signals; the mobility of this fantastically capable combination of sensors, computers, and communications makes the AWACS one of the true "break-throughs" of our time.

— The McDonnell-Douglas F-15 is proving to be everything we expected it to be — a magnificent air superiority fighter with the flexibility and the growth to keep our tactical air forces ahead of the threat and equal to or better than any adversary. I have flown this aircraft and it has amazing performance, avionics and agility. We are beginning to deploy the F-15 in quantity, and not a bit too soon! As we have watched the dramatic increase in capability and expanded deployment of modern Soviet fighter aircraft, the air superiority that we have maintained over every battlefield in which we have been involved since 1943 may not be assured — but nothing will contribute more to the continued assurance of that kind of superiority than the F-15, in operational quantities, in the hands of trained U.S. aviators . . . and, hopefully, in conjunction with the AWACS.

— The General Dynamics developed F-16, which established itself as the world's most competent, medium-priced multi-purpose fighter aircraft, offers similar promise — and with a price tag and supportability that should enable it to be employed effectively throughout our own air forces, those of our European allies, and other advanced free world nations. Its relative cost promises to make it available in quantity among free world air forces — a standardization that is, of itself, a major plus in U.S. and allied security interests.

— The heavy, armed, tough, rugged, close-support A-10 — being produced by Fairchild for our tactical air forces operating directly in close support of our ground forces — will give us the very first airplane designed, from the start, for true close support. The A-10 incorporates large caliber ammo, high rate of fire, and long-loiter. It is extremely tough and survivable, optimized for armor kill, capable of carrying an amazing bomb load, and is easily maintained.

This airplane is in the final phases of operational development for deployment in Europe in direct support of U.S. and NATO's armies in the central region and will provide an incomparable capability for air delivered munitions in direct support of our ground forces.

Of even more importance is the fact that our highly capable weapons of today — and those we have recommended for tomorrow — represent only capability. There is no way that our nation can substitute capability for a **national will** to deter . . . a **national will** to keep its forces relevant to the varied and powerful forces we may have to face under provocation . . . a **national will** to stand up confidently to coercion and intimidation, just as we must to overt, actual attack.

General Dougherty and SAC's B-1 aircraft.

I said that our military policy was one of deterrence — it is; but deterrence is the product of the strength of our military capabilities and the world's perception of our national will. It is based on our "guts" — yours, mine, and our nation's.

Because of the selflessness and dedication of the American people we have been able, in the past, to build the best Air Force, the best Naval forces, and the best Army in the world, and to provide for America's and the free world's defense in a way that has been effective in deterring major conflict. We on active duty are grateful for this — and for the veterans who have preceded us and have incorporated four major periods of conflict. Let's keep it that way, and let's work together to preclude the rolls from swelling to incorporate the veterans of a **fifth** major conflict **in our lifetimes** . . . or those of our children in the generations to come. ★★★★

OTSL TRAINING TOPICS

... A SYNOPSIS OF NEW PROGRAMS FOR SAC AIRCREW TRAINING

As a result of our visits to the field, we have discovered that some users of the videotape and sound/slide equipment are having problems in operating and maintaining the equipment. Each unit DOT should have Reference Guide 75005, SAC TV Field Unit Instructions, dated 1 Jan 75, and Reference Guide 75007, SAC Caramate II SP Field Unit Instructions, dated 1 May 76. If you desire additional copies, contact autovon 739-7034 for the television book and 739-5398 for the Caramate book. Both of these reference guides provide normal operating instructions, cleaning and adjustment instructions, and procedures for repair and replacement of the equipment. Additionally, the Caramate book provides instruction on how to prepare a sound/slide program from formulating your objectives through producing your own 35mm slides. Incidentally, an OTSL message dated 24 Nov 76 made changes to Reference Guide 75007 on pages 6, 10, and the example on the last page. All references to 1ACOMMG/MAVT are changed to 1ACOMMG/LGMBT.

With the increased emphasis on quality ground training instruction and the reduced experience level of the instructors, OTSL has produced a study guide that should be a valuable aid to new and "old head" instructors alike. It is Study Guide 12005 entitled "A Guide to Effective Instruction and Evaluation," dated 1 Sep 1975. It provides you with a reference of time-proven instructional methods and techniques whether you are engaged as a full-time instructor or only called upon infrequently. It will assist you in developing and understanding the techniques and principles required to apply your abilities and talents to any instructional situation.

In addition to the study guide, you should also have available for study a three-part program frequently called the "Mini-AIOC" (Academic Instructor Orientation Course). It consists of three separate programs with worksheets and should be accomplished in the following sequence: (1) AIOC-Lesson Planning (sound/slide); (2) AIOC-Teaching Techniques (videotape); and (3) AIOC-Training Aids (videotape). A description of each is included in the OTSL Catalog. The "Mini-AIOC" is not intended to replace the on-base instructor course conducted by the ATC travel team, but should be used as an interim measure until this training can be received or to supplement this training.

Here are the most recent videotapes from the television studio:

(NOTE: All programs are unclassified)

1. "Giant Voice" — describes and explains the activities before and during the 1976 SAC Bombing and Navigation Competition.

2. "Nuclear Safety: SAC Two-Man Policy" — covers in-depth the requirements of a SAC Two-Man Policy team when working in a no-lone zone and reviews several recent SAC two-man policy violations. It provides visual transition from the classroom to the flightline and reinforces requirements as stated in the regulation.

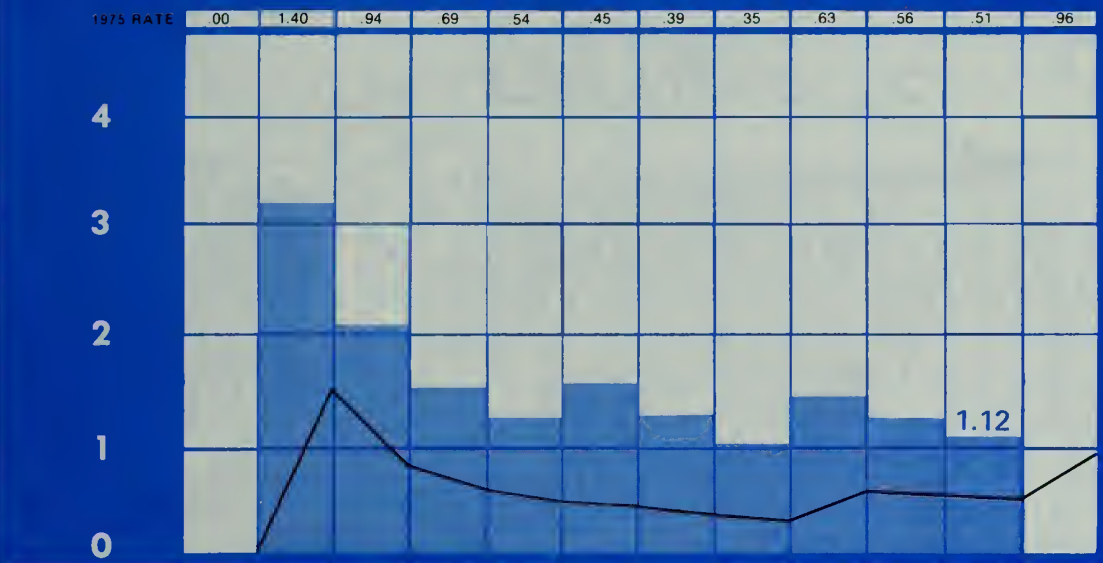
3. "SAC Hanger Flying #2" — interviews a KC-135 crew involved in a mid-air collision with an F-4C during refueling. It addresses the impact and subsequent activities that led to a successful landing at the Edwards AFB, California dry lake bed.

The SAC Directorate of Safety recently completed a sound/slide program entitled "SAC Accident Brief." The program is introduced by the SAC/DO and narrated by the SAC Director of Safety. It reviews three recent SAC major aircraft accidents. The accident situations are recreated and cause factors highlighted. Each bomb/air refueling wing safety office received a copy, so see your safety officer about viewing it.

Again, if you have any questions or comments, contact us at any of the phone numbers listed in the OTSL Catalog.

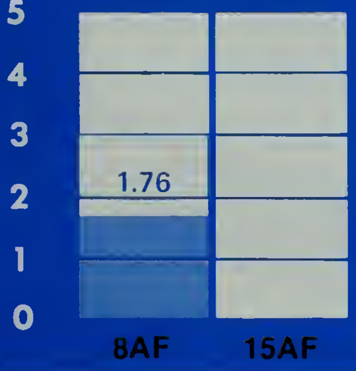
1976 Flying Safety Rate

SAC MAJOR ACCIDENT RATE (PER 100,000 FLYING HRS)



ACCIDENTS	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1975	0	1	0	0	0	0	0	0	1	0	0	2
1976	0	2	0	0	0	1	0	0	1	0	0	

1976 SUBORDINATE CMD RATES

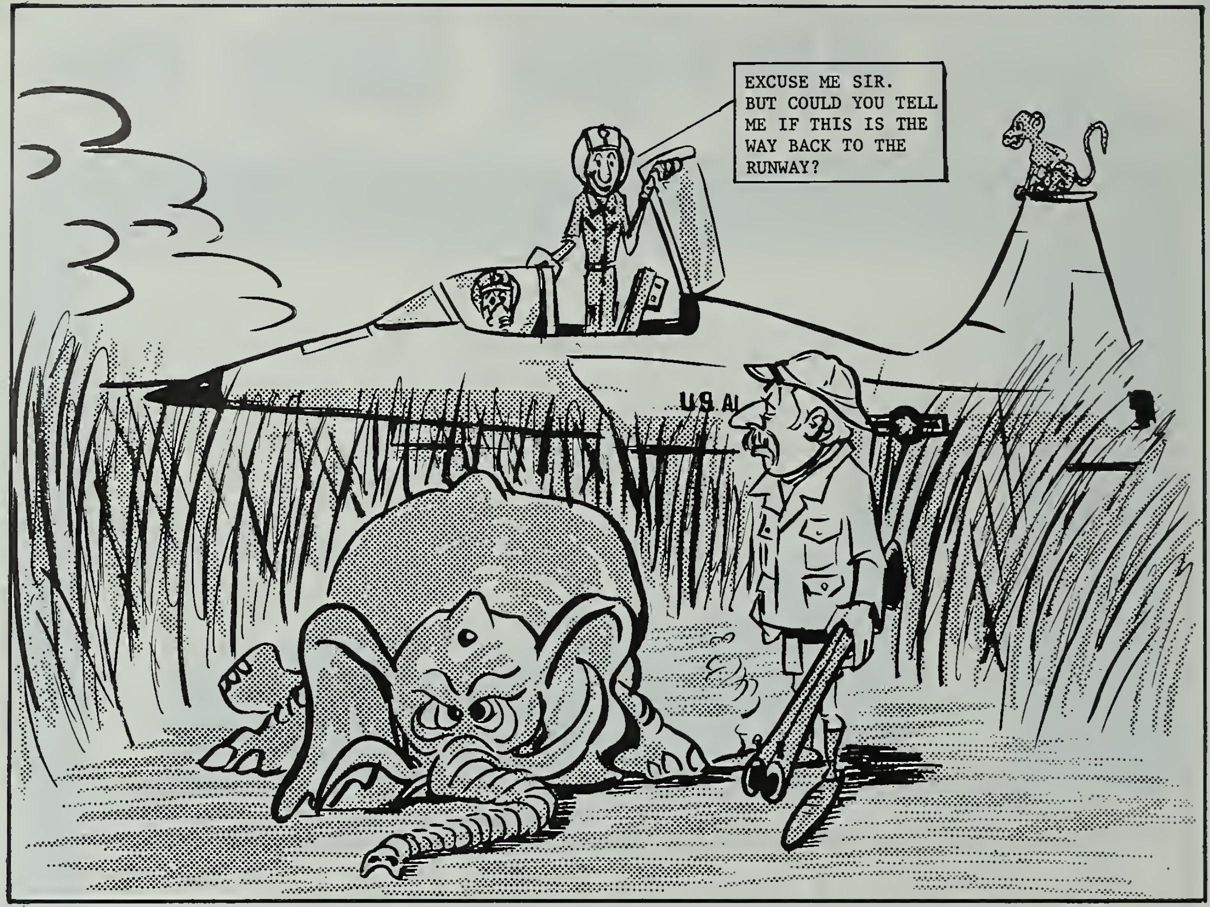


ACCIDENT STATUS

KC-135	FEB 76
FB-111	FEB 76
FB-111	JUN 76
KC-135	SEP 76

LEGEND ⁀ =1975 RATE

OPS HAZARDS


EXCUSE ME SIR. BUT COULD YOU TELL ME IF THIS IS THE WAY BACK TO THE RUNWAY?
U.S. AI

WHO'S GOT THE AIRCRAFT? — While this was a T-38 incident, it involved two SAC copilots in the ACE program. The aircraft was returning from an ACE team cross-country mission. A normal landing was accomplished on runway 32 and the aircraft slowed prior to turning off the runway. The aircraft cleared the active at taxiway 3A which runs perpendicular to runway 32. At that time each pilot thought that the other was taxiing and both occupied themselves with accomplishing after-landing checks. During this time, neither pilot was in positive control of the aircraft and it drifted toward the left side of the taxiway. Both pilots were distracted with interior cockpit duties and did not notice that the aircraft was approaching the edge of the taxiway. When they finally looked up and realized what was happening, the aircraft was already departing the hard surface. The pilot in the front cockpit shut down the engines and the aircraft was brought to a stop after traveling approximately 18 and one-half feet through the grass. The aircraft came to a stop 12 feet from the left edge of the taxiway, 30 degrees off taxiway heading. The rear cockpit pilot deplaned and installed the gear pins. The aircraft was towed in and inspected for damage and FOD inspection. The inspection revealed no damage and the aircraft has subsequently been flown without incident.

The crew was fortunate in this incident because there were no injuries and aircraft damage was minimal; however, the possibilities for a major accident are quite evident. Somebody has to watch the store. Positive transfer of control of an aircraft must be inherent in all SAC crewmembers and the pilot in control must always insure the desired operation of the aircraft is accomplished.

CALL IT NOW, OR PAY FOR IT LATER!

— Since 1965 there have been three major accidents which directly resulted from air refueling operations. One of these accidents occurred this year and last year we had a minor accident when a KC-135 lost a boom.

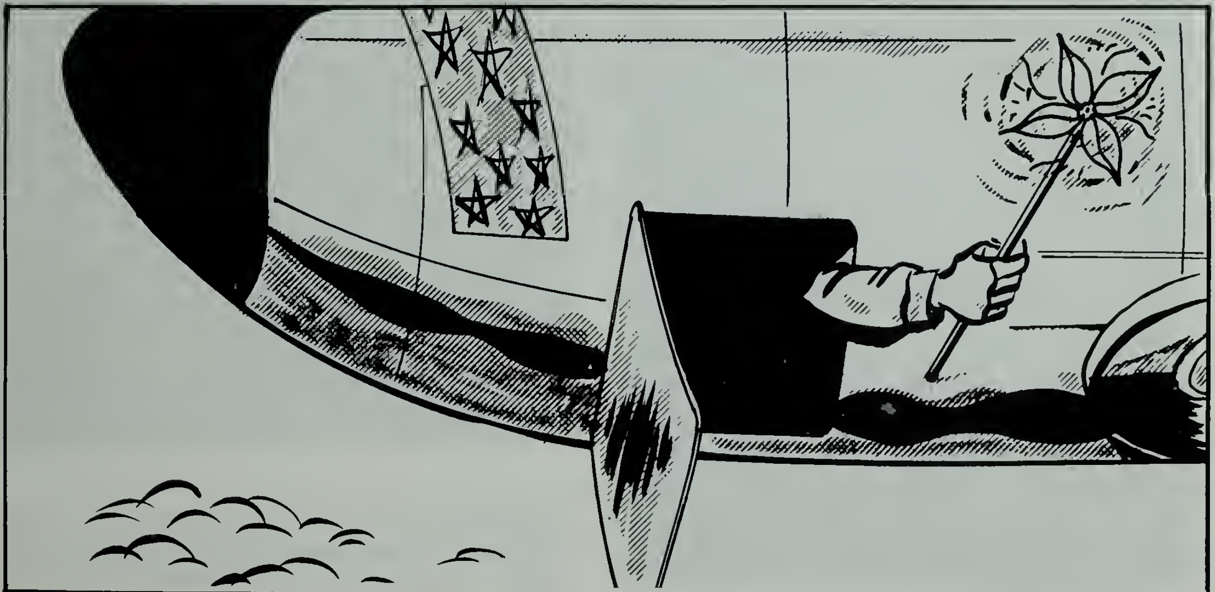
I SAID BREAKAWAY!

Air refueling is a hazardous operation but one which is necessary. It is extremely unlikely if we will ever eliminate incidents from occurring but accidents can be prevented if established procedures are followed. It is imperative that both tanker and receiver crews know these procedures with special emphasis on the breakaway. A breakaway situation can develop rapidly. If the receiver pilot and boom operator have pre-established criteria for initiating the breakaway, the reaction time saved may mean the difference between an accident or successful completion of a standard maneuver. Don't wait to decide when you will call the breakaway until the hazardous situation is developing. It also helps to know what your proper action is once the breakaway is called.

WIND AND SAILS

— Well, well, well, once again it has been proven that the Dash-One was right. Just don't read the Dash-One, **Read and Heed.** A B-52 had flown a normal mission through final landing when the crew relaxed because the mission was over. Right? Wrong! A wind of 18 Kts was blowing straight down the runway. The crew turned off the runway (90°) forward speed 10 knots and throttles 4 and 5 were advanced to 75-80%. Remember the caution of 15 knots and 90°? Damage resulted to the bulkhead door. How about that — the Dash One was right again.

Compliance with the tech order could have saved this crew some grief and maintenance some work.



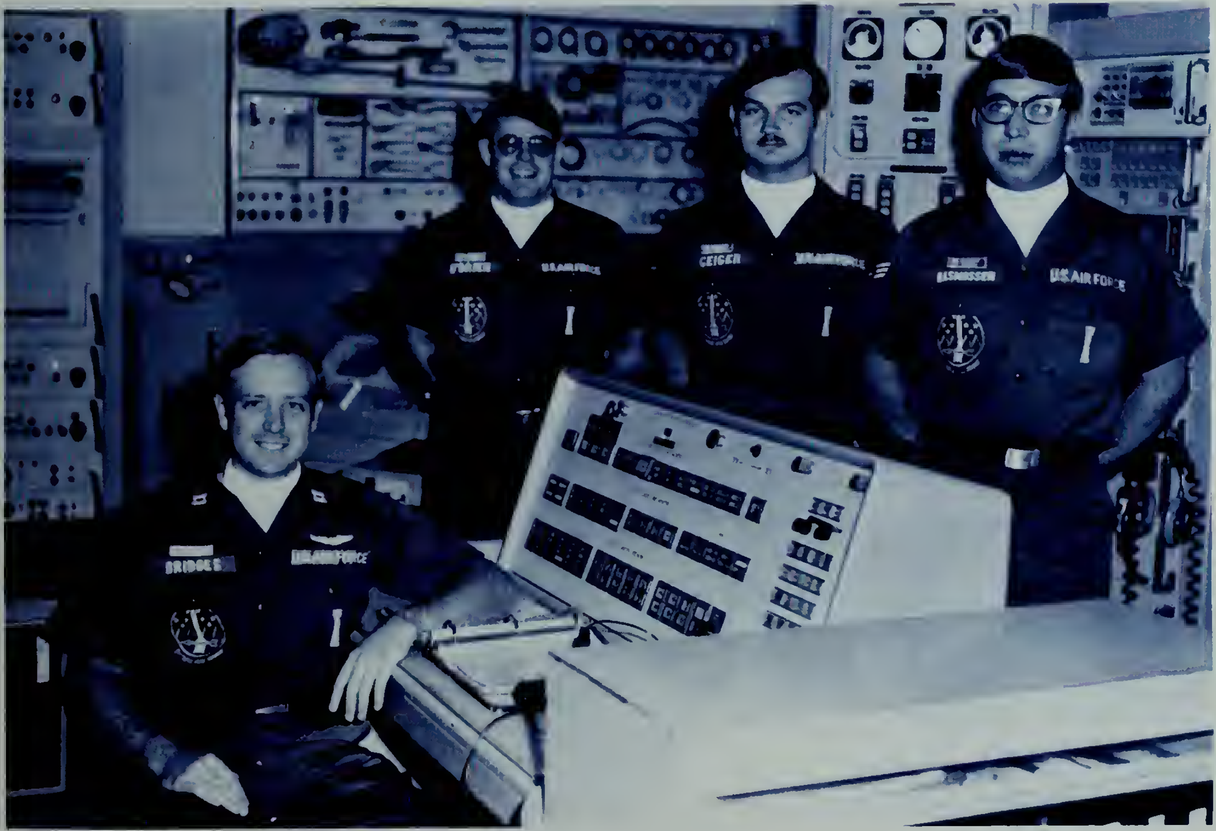
KC-135 Crew R-109, 916 Air Refueling Squadron, Travis AFB: (L-R) BO CMSgt Irving S. Reid, CP 1Lt Jerry J. Woomer, P Capt Curtis A. Grayburn, Staff AC Capt Thomas MacDonald, and N 2Lt Willard H. Strandberg.

PROFESSIONAL PERFORMERS

MINUTEMAN Crew R-131, 91SMW, Minot AFB: MCCC Maj John R. Ransome, above, and DMCCC 1Lt Jefferson R. Fedrizzi, left.

MAINTENANCE MAN. MSgt Don W. Wheeler, 7th Munitions Maintenance Sq, 7BMW, Carswell AFB.

TITAN Crew S-103, 390SMW, Davis-Monthan AFB: MCCC Capt John F. Bridges, DMCCC 2Lt Gregory J. O'Brien, MSAT Sgt Richard L. Rasmussen, and BMFT A1C Thomas A. Geiger.



Individuals selected for these pages as SAC's top professional performers of the month are chosen from nominations made by all SAC units. Selection is made only after all nominations have been carefully screened and those chosen meet the highest standards of excellence as outlined in SACR 127-2.

HALL OF FAME

TACTICAL FLYING

OVER EIGHTEEN YEARS

157 AREFG, Pease (NHANG)	Jun '58

OVER SEVENTEEN YEARS

940 AREFG, Mather (USAFR)	May '59
916 AREFS, Travis	Sep '59

OVER SIXTEEN YEARS

97 BMW, Blytheville	Mar '60
19 BMW, Robins	Oct '60

OVER FIFTEEN YEARS

151 AREFG, Salt Lake City (UTANG)	Feb '61
161 AREFG, Sky Harbor (AZANG)	Apr '61
126 AREFW, Chicago O'Hare (ILANG)	Apr '61
134 AREFG, McGhee Tyson (TNANG)	Aug '61

OVER FOURTEEN YEARS

11 AREFS, Altus	Feb '62
301 AREFW, Rickenbacker	Jul '62
96 BMW, Dyess	Aug '62
449 BMW, Kincheloe	Aug '62

OVER TWELVE YEARS

452 AREFW, March (USAFR)	Nov '64
160 AREFG, Rickenbacker (OHANG)	Dec '64

OVER ELEVEN YEARS

136 AREFW, Dallas NAS (TXANG)	Jun '65
320 BMW, Mather	Jul '65

OVER NINE YEARS

92 BMW, Fairchild	Feb '67
171 AREFW, Greater Pittsburgh (PAANG)	Jun '67
55 SRW, Offutt	Jul '67
2 BMW, Barksdale	Aug '67

OVER EIGHT YEARS

319 BMW, Grand Forks	Dec '67
22 BMW, March	Feb '68

OVER SEVEN YEARS

128 AREFG, Gen Mitchell (WIANG)	Jan '69
5 BMW, Minot	Feb '69
42 BMW, Loring	Sep '69
93 BMW, Castle	Oct '69
141 AREFW, Fairchild (WAANG)	Oct '69

OVER SIX YEARS

28 BMW, Ellsworth	May '70

OVER FOUR YEARS

7 BMW, Carswell	Mar '72
101 AREFW, Bangor (MEANG)	Mar '72
416 BMW, Griffiss	May '72
305 AREFW, Grissom	Aug '72
376 SW, Kadena	Nov '72

ICBM

OVER THIRTEEN YEARS

381 SMW, McConnell	Nov '63

OVER TWELVE YEARS

90 SMW, F E Warren	Jul '64
1 STRAD, Vandenberg	Sep '64

OVER ELEVEN YEARS

308 SMW, Little Rock	Aug '65

OVER SIX YEARS

341 SMW, Malmstrom	Apr '70

To gain listing in the Hall of Fame, a SAC or ARF unit must be accident-free for 48 months.

SAC SAFETY SCREEN

2BMW, Barksdale Crew R-105: P Capt James F Klimback, CP Capt Robert L Stewart, N 1Lt Tommy F Joplin, BO SSgt Jerry W Rhodes

5BMW, Minot Crew R-16: P Capt Lawrence J Horton, CP 1Lt David M Burroughs, RN 1Lt Gregory W Scheurs, NN 1Lt Richard M Taylor, EW 1Lt Donald P Nelsen, AG Sgt Kurtis G Lands

7BMW, Carswell Crew IT-1: IP Lt Col Robert A Ackroyd, IRN Maj Thomas A Green, IEW Capt Allen B Cook Jr, IG TSgt Mickael T Slemp

7BMW, Carswell Crew R-113: P Capt Theodore F Jezek, CP 1Lt Jorge L Fernandez, N 2Lt Edward P Burgess Jr, IBO TSgt Darrell K Brummett

7BMW, Carswell Crew S-60: P Capt James D West, CP 1Lt John J Wright, RN 1Lt Larry O Anderson, N Capt James R Hobbs, EWO Capt Vincent M Jenkins, G SSgt Terry L Moore

11AREFS, Altus Crew R-113: P Capt Linwood E Oakley, CP 1Lt Daniel E Gellenbeck, N 1Lt Thomas W Runyan, BO SSgt Richard F Ice Jr

28BMW, Ellsworth Crew R-110: P Capt Robert C Metcalf, CP 2Lt Gilbert K Bissell, NN 1Lt Martin J Baumann, BO A1C Robert J Gomez

319BMW, Grand Forks Crew R-127: P Capt Robert F Carty, CP 1Lt David C Patton, NN 1Lt Robert F Agnew, IBO SSgt Odean H Bakken

320BMW, Mather Crew R-07: P Capt Christopher P Moore, CP Capt John D Weaver, CP 1Lt Earl E Whitt, RN Capt Sherman R Sheldon, NN 1Lt James A Petrilli, EW 1Lt Christopher P Wheeler, AG SSgt Layton E Payne

341SMW, Malmstrom Crew E-052: MCCC Capt Walter H Harris, DMCCC Capt Gary M Bourret

351SMW, Whiteman Crew E-104: MCCC Capt John D Washburn, DMCCC 2Lt John M Melin

376SW, Kadena Crew E-107: P Capt Steven F Waiss, CP 1Lt Joseph H Ferry, CP 1Lt Norman H Deunk, N 1Lt John S Hebert, BO SSgt James A Justice

449BMW, Kincheloe Crew S-07: P Capt John R Hutto, CP Capt Michael H Rolbeck, RN Capt Raymond B Yoh, N 1Lt Douglas R Hanson, EWO 1Lt Gennaro Cuomo, G SrA William D Mitchell

The SAC Safety Screen is an honor roll of SAC's most professional crews. To gain listing on the Screen, crew members must be nominated by their unit commanders and meet high selection criteria of experience in their aircraft or missile system *IAW SACR 127-2*.

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WINTER safety

There's no point in getting long-winded on winter safety if you're not going to think about it. But if you care, caution, courtesy, and judgment are the ticket. Stay off thin ice. Yield to others in traffic (two skidding roadhogs can only result in damage or injury). You hot-dogging beginning skiers stick to the bunny hills. And you, the 40-year-old Hercules with high blood pressure, a buck to that eager young kid on your block could save you from a heart attack and still get your sidewalk shoveled. Above all, dress for the weather. Frostbite is a quick way to lose one of those beautiful physical features we want others to notice, like toes, nose, ears, and fingers. So bundle up, be winter-wise.